

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION
APPENDIX 2
MONITORING AND REPORTING REQUIREMENTS
GROUP ENROLLMENT – LOS ANGELES COUNTY
UNDER
ORDER NO. R4-2023-XXXX
WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES FROM IRRIGATED AGRICULTURAL LANDS

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Monitoring and Reporting Requirements

These Monitoring and Reporting Requirements are issued by the Regional Water Quality Control Board, Los Angeles Region (Los Angeles Water Board) pursuant to Water Code 13267, which authorizes the Los Angeles Water Board to require preparation and submittal of technical and monitoring reports.

The Los Angeles Water Board require the technical and monitoring reports to implement and determine compliance with the Waste Discharge Requirements for Discharges from Irrigated Agricultural Lands, Order No. R4-2023-XXXX (General WDRs). The General WDRs authorize Dischargers to obtain coverage under the General WDRs as an individual or as a member of a Discharger Group (Member). These Monitoring and Reporting Requirements include requirements for Discharger Groups representing Members who discharge in Los Angeles County.

As required by the General WDRs, Discharger Groups shall develop a Monitoring and Reporting Plan (MRP) to verify the adequacy and effectiveness of the requirements contained in the General WDRs. The MRP shall be sufficient to (1) assess the impacts of waste discharges from irrigated agricultural lands on waters of the state, (2) evaluate the effectiveness of management practices to control waste discharges, (3) track progress in reducing the amount of waste discharged to waters of the state to improve water quality and protect beneficial uses, and (4) assess compliance with discharge limitations, where applicable.

The Executive Officer of the Los Angeles Water Board may revise the monitoring and reporting requirements as appropriate or necessary to ensure that the monitoring and reporting conducted pursuant to this Appendix is adequate to achieve this purpose.

These Monitoring and Reporting Requirements conform to the goals of the Policy for Implementation and Enforcement of the Nonpoint Source (NPS) Pollution Control Program (NPS Policy). These Monitoring and Reporting Requirements also incorporate the precedential elements of the State Water Board Order WQ 2018-0002 (ESJ Order)¹, adopted on February 7, 2018.

1 Monitoring and Reporting Plan

Discharger Groups shall submit an MRP to the Los Angeles Water Board for Executive Officer approval six months after adoption of Order No. R4-2023-XXXX. The sections below outline the minimum requirements for the MRP.

¹ State Water Board adopted Order WQ 2018-0002 (ESJ Order) available at https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2018/wqo2018_0002_wit_h_data_fig1_2_appendix_a.pdf (as of October 7, 2022)

Other Los Angeles Water Board programs (e.g., TMDLs) may contain requirements similar to the monitoring requirements for Discharger Groups. Discharger Groups may request modifications to the MRP requirements to coordinate monitoring tasks with other monitoring programs required by other Los Angeles Water Board Programs. No Discharger Group may implement changes to the MRP without prior approval from the Executive Officer. If a Discharger Group has approval to use other Los Angeles Water Board programs (e.g., TMDLs) to satisfy any of its monitoring requirements, the results of that monitoring must still be reported the Los Angeles Water Board in the annual monitoring report as required in Section 2.2 of this document.

1.1 Surface Water Quality Monitoring Requirements

1.1.1 Monitoring Sites

The Discharger Group shall monitor discharges from irrigated agricultural lands to waters of the state under these requirements. Due to the dispersed nature of irrigated agriculture in Los Angeles County, the Discharger Group may propose representative monitoring sites to determine discharge quality for all enrolled irrigated agricultural land in the Discharger Group. The discharge quality measured at a representative monitoring site shall be assumed to be the same as the discharge quality at other sites of the same size, crop type, and location. The number and location of representative monitoring sites shall be based on the specific characteristics of irrigated agricultural land within the Discharger Group and shall be justified in the MRP based on a detailed description of the characteristics of each representative monitoring site relative to the characteristics of the irrigated agricultural land. Several criteria should be used to identify locations for representative monitoring. These include, but are not limited to the following:

- previous or existing monitoring locations
- proximity to waterbodies for which TMDLs have been established
- proximity to waterbodies that are on or proposed for inclusion on the 303(d) list of impaired waterbodies
- potential runoff characteristics
- amount of pesticide and fertilizer use
- type of crop
- safe all-weather access locations

The MRP shall describe the characteristics of each monitoring site and provide a map and GPS coordinates for each monitoring site. The MRP shall list the Discharger Group member sites that are being represented by each monitoring site.

1.1.2 Monitoring Frequency and Seasonality

The frequency of monitoring for Table 1 constituents shall be two times per storm year (i.e., October 15-October 14): once during the dry season and once during the wet season. Based on a review of annual monitoring reports, the Executive Officer may increase or decrease the frequency of monitoring. Factors that may be considered in the Executive Officer's evaluation of the monitoring frequency include, but are not limited to, the exceedances or attainment of applicable water quality benchmarks and the effectiveness of any management measures as a result of WQMP implementation.

Monitoring shall be conducted during the dry season and wet season. The dry season is from May 15 to October 15. The wet season is from October 15 to May 15. The wet-season samples shall be collected within the first 24 hours of a storm with greater than 0.5-inch rain as measured by the nearest National Weather Service rain gauge, to the extent practicable. Practical constraints on wet season sampling events include but are not limited to (1) lab closures on weekends and holidays, (2) sample holding times, and (3) safety of the monitoring team. The wet season samples shall be collected after the first storm of the year. The dry season samples shall be collected after the pesticides or fertilizers have been applied to the irrigated agricultural land that drains to the monitoring site and during an irrigation event. If there is no runoff at the monitoring site, then the observation shall be documented with photos showing the occurrence of irrigation and the lack of runoff at the monitoring site. If there is consistently no runoff during irrigation events at representative monitoring sites, then the MRP shall be revised to include new representative monitoring sites.

1.1.3 Monitoring Constituents

The MRP shall include monitoring at representative monitoring sites for all constituents listed in Table 1.

Table 1: Constituents to be Monitored at All Sites

| Constituent | Units |
|------------------------|----------------------------|
| Flow | CFS (Ft ³ /Sec) |
| pH | pH units |
| Temperature | °F |
| Dissolved Oxygen | mg/L |
| Turbidity | NTU |
| Total Dissolved Solids | mg/L |
| Total Suspended Solids | mg/L |

| Constituent | Units |
|------------------------------------|---------------------------------|
| Hardness (as CaCO ₃) | mg/L |
| Chloride | mg/L |
| Ammonia | mg/L |
| Nitrate-Nitrogen | mg/L |
| Total Nitrogen | mg/L |
| Phosphate | mg/L |
| Total Phosphorus | mg/L |
| Sulfate | mg/L |
| Total Copper | µg/L |
| Organophosphate Suite ² | µg/L |
| Organochlorine Suite ³ | µg/L |
| Toxaphene | µg/L |
| Pyrethroids Suite ⁴ | µg/L |
| Neonicotinoids Suite ⁵ | µg/L |
| Chronic Toxicity | Pass/Fail and % ⁶ |
| <i>E. coli</i> | cfu/100mL |
| Trash ⁷ | Observations |

² Organophosphate Suite: Bolstar, Chlorpyrifos, Demeton, Diazinon, Dichlorvos, Dimethoate, Disulfoton, Ethoprop, Fenchlorophos, Fensulfotion, Fenthion, Malathion, Merphos, Methyl Parathion, Mevinphos, Phorate, Tetrachlorvinphos, Tokuthion, Trichloronate

³ Organochlorine Suite: 2,4' – DDD, 2,4' – DDE, 2,4'DDT, 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, Aldrin, BHC-alpha, BHC-beta, BHC-delta, BHC-gamma, Chlordane-alpha, Chlordane-gamma, Dieldrin, Endosulfan sulfate, Endosulfan-I, Endosulfan-II, Endrin, Endrin Aldehyde, Endrin Ketone

⁴ Pyrethroid Suite: allethrin, bifenthrin, cyfluthrin, cypermethrin, danitol, deltamethrin, esfenvalerate, fenvalerate, lambda-cyhalothrin, permethrin, and prallethrin

⁵ Neonicotinoids Suite: acetamiprid, clothianidin, dinotefuran, imidacloprid, nitenpyram, nithiazine, thiacloprid and thiamethoxam.

⁶ Results obtained from toxicity tests shall be reported as either a "pass" or a "fail," and the percent effect at the Instream Waste Concentration (IWC) for each endpoint.

⁷ The assessment methodology should produce consistent results across watersheds and across counties, this may include the assessment methodology in previously approved MRPs under Order No. R4-2021-0045-A02 or adopted Trash TMDLs

For irrigated agricultural lands discharging to the subwatersheds subject to TMDLs, the MRP shall also include monitoring for the additional constituents specified in Table 2 at the representative monitoring sites within the subwatersheds listed in Table 2. If discharges from irrigated agricultural lands within a subwatershed in Table 2 are represented by a monitoring site outside of the subwatershed, then the representative monitoring site shall include monitoring for the additional constituents listed in Table 2.

Table 2: Constituents to be Monitored in Specific Subwatersheds Based on TMDL Requirements

| Subwatershed | Constituent | Units |
|------------------------|--|-----------|
| Malibu Creek Watershed | Total Nitrogen | mg/L |
| | Total Phosphorus | |
| Santa Clara River | Total Nitrogen | mg/L |
| Santa Clara River | Total Coliform Fecal Coliform Enterococcus <i>E. coli</i> | MPN/100mL |
| Santa Clara River | Chloride | mg/L |

If other Los Angeles Water Board programs (e.g. TMDLs) are used to monitor the constituents in Table 2 the results of that monitoring must be reported in the Annual Monitoring Report required in Section 3.2 of this document.

1.2 Groundwater Monitoring and Reporting Requirements

1.2.1 Groundwater Monitoring

The groundwater monitoring shall (1) assess trends in groundwater quality beneath irrigated agricultural lands through a Groundwater Quality Trend Plan and (2) set targets to achieve groundwater water quality benchmarks through the Groundwater Protection Formulas, Values, and Targets.

1.2.2 Groundwater Quality Trend Monitoring

In order to assess trends in groundwater quality, Discharger Group shall analyze existing monitoring data from groundwater basins below irrigated agricultural lands and propose wells that will be used to compare historical and future data to evaluate long-term groundwater trends in a Groundwater Quality Trend Plan, due December 15, 2024. A Groundwater Quality Trend Monitoring Report shall be submitted every three years.

1.2.3 Groundwater Protection Formulas, Values and Targets

The purpose of the Groundwater Protection Targets is to set a desired target that is intended for all members collectively to achieve compliance with the water quality benchmarks for groundwater.

By September 1, 2026, the Discharger Group shall propose a Groundwater Protection Formula to the Executive Officer for approval after opportunity for public review and comment. The Groundwater Protection Formula will generate a numeric value (expressed as either a nitrogen loading number or a concentration of nitrate in water). This value will reflect the total applied nitrogen, total removed nitrogen, recharge conditions, and other relevant and scientifically supported variables that influence the potential average concentration of nitrate in water expected to reach groundwater in a given high priority area over a given time period.

The Discharger Group shall propose Groundwater Protection Values to the Executive Officer for approval after opportunity for public review and comment within six months of Executive Officer approval of the Groundwater Protection Formula. The Discharger group shall propose Groundwater Protection Targets to the Executive Officer for approval after opportunity for public review and comment within one year of Executive Officer approval of the Groundwater Protection Values.

The Discharger Group shall develop Groundwater Protection Targets for each high priority area for which a Groundwater Protection Values was computed the prior year.

The Groundwater Protection Targets shall be reviewed and revised as necessary every five years.

A high priority area is an area where the Executive Officer has determined that irrigated agriculture may be causing or contributing to exceedances of water quality objectives or a trend of degradation of groundwater that may threaten applicable basin plan beneficial uses. More specifically, this includes those basins monitored as part of Section 1.2.2, that had one or more wells with a documented mean Nitrate-N concentration of greater than 10 mg/L or 5-10 mg/L and increasing concentration trend. High priority areas will be evaluated and determined every 3 years based on the results of the Groundwater Quality Monitoring Trend Report.

1.3 Methods and Quality Assurance Project Plan

A discussion of monitoring event preparation and field protocols for sample collection and sample handling (including chain of custody requirements) shall be included in the MRP. Additionally, the MRP shall present the quality control (QC) samples that will be collected in conjunction with environmental samples to verify data quality. All samples shall be collected utilizing field techniques consistent with the State Water Resources

Control Board's (State Water Board) Surface Water Ambient Monitoring Program (SWAMP). Moreover, all monitoring instruments and devices used by the Discharger Group for the prescribed field monitoring and sample collection shall be properly maintained and calibrated to ensure proper working condition and continued accuracy.

The MRP shall include a Quality Assurance Project Plan (QAPP). The QAPP shall describe the quality assurance requirements for the MRP. The QAPP will ensure that data are collected and analyzed consistent with State and Los Angeles Water Board monitoring programs and are of high quality. The QAPP shall be consistent with the SWAMP QAPP. As such, the Discharger Group's QAPP shall include at least the following four sections (1) Project Management, (2) Data Generation and Acquisition, (3) Assessment and Oversight, and (4) Data Validation and Usability. A QAPP template is available through the SWAMP website at http://www.waterboards.ca.gov/water_issues/programs/swamp/tools.shtml.

The QAPP shall include the location of sample site(s) and the sampling schedule. The QAPP shall include data quality objectives including, but not limited to the following:

- Representativeness
- Comparability
- Accuracy
- Precision
- Recovery
- Reporting limits
- Completeness

The analytical methods, including method detection limits and reporting limits shall be presented in the QAPP. In general, the method detection limits shall be at or below applicable water quality benchmarks. However, several of the constituents of concern have water quality benchmarks that are lower than the readily available detection limits. As analytical methods and detection limits continue to improve (i.e., development of lower detection limits) and become more environmentally relevant, Dischargers shall incorporate new method detection limits in the MRP and QAPP. In the meantime, the detection limits for these constituents shall be set at levels achievable by professional analytical labs, subject to discharger requests and Executive Officer approval.

A laboratory that is certified by the State Water Board's Environmental Laboratory Accreditation Program (ELAP) shall conduct all laboratory analysis according to standard methodologies (e.g., USEPA methods and/or Standard Methods for the Examination of Water and Wastewater). The QAPP shall include the laboratory's Standard Operating Procedures (SOPs). Laboratory analytical methods must be included as an appendix of the QAPP. All data shall be submitted in electronic format to the Los Angeles Water Board.

Toxicity testing will be conducted and implemented in accordance with the *State Policy for Water Quality Control: Toxicity Provisions* as revised on October 5, 2021 or as further updated and other State Water Board and Los Angeles Water Board toxicity plans, policies and guidance at the time that toxicity monitoring is conducted.

Chronic toxicity testing shall be analyzed using the Test of Significant Toxicity using a chronic freshwater method based on the 2021 Revised State Policy for Water Quality Control: Toxicity Provisions. The Discharger Group shall conduct chronic toxicity testing using the most sensitive of the three test species: *Pimephales promelas* (fathead minnow), *Ceriodaphnia dubia* (water flea) and *Selenastrum capricornutum* (green algae). The Discharger Group shall document its selection rationale in its annual monitoring report and the selection may be based on test results obtained under Order No. R4-2016-0143. If sampling sites are located in tidally influenced areas, alternative species that are suitable for more brackish conditions may be selected for toxicity testing, subject to Executive Officer approval.

The results of chronic toxicity testing will be used to trigger further investigations to determine the cause of observed toxicity. If chronic toxicity tests indicate the presence of significant toxicity in the sample, Toxicity Identification Evaluation (TIE) procedures shall be initiated to investigate the cause of toxicity. For the purposes of triggering a TIE, significant toxicity is defined as at least 50% mortality. This threshold is consistent with the approach recommended in guidance published by US EPA for conducting TIEs (US EPA, 1996b). During the field collection of samples an adequate volume of water to conduct both toxicity tests and TIEs should be collected from each monitoring site.

1.4 Irrigation and Nutrient Management Plan and Report Requirements

1.4.1 Irrigation and Nutrient Management Plan

All members must prepare and implement an Irrigation and Nutrient Management Plan (INMP) that provides information on which irrigation and nutrient associated management practices will be implemented for the upcoming crop year. At a minimum the INMP should include all the elements in the approved INMP template developed by their Discharger Group. INMPs must be certified⁸ unless the Member's total farming operation consists of less than 10 acres and the Member has not been designated as

⁸ A certified nutrient management plan must be certified in one of the following ways:

- a) Self-certified by the Member who attends a California Department of Food and Agriculture, or other Executive Officer approved training program for nutrient plan certification
- b) Self-certified by the Member that the plan adheres to a field-specific recommendation from the Natural Resources Conservation Service (NRCS) or the University Cooperative Extension
- c) Certified by a Crop Advisor certified by the American Society of Agronomy, or Technical Service Providers certified in nutrient management by NRCS

an outlier⁹ by its Discharger Group. All Members must prepare their first INMP by March 1, 2025, and update it annually thereafter. INMPs are to be kept on-farm.

1.4.2 Irrigation and Nutrient Management Report

All Members must also prepare an Irrigation and Nutrient Management Report (INMR) that provides field-level information on the irrigation and nitrogen application practices for the previous year. An INMR must include the information used by the Discharger Group in calculating an Applied/Removed (A/R) ratio for nitrogen, and an Applied-Removed (AR) difference for nitrogen, as defined in the equations in sections 1.4.4.1 – 1.4.4.5 below. All Members must submit the first INMR to the Discharger Group on March 1, 2026, and annually thereafter. The INMRs submitted by Members shall be reported by field¹⁰ and include nitrogen applied values¹¹ and crop yield. The INMR must include the information unless otherwise specified.

1.4.3.1 Total Nitrogen Applied

All Members must report total nitrogen applied each year in the INMR. The total nitrogen applied includes all nitrogen proactively added to a field from any source such as organic amendments, synthetic fertilizers, manure, and irrigation water.

1.4.3.2 Total Nitrogen Removed

All Members must report the crop yield each year in the INMR unless the Member meets one of the criteria for alternative reporting requirements below. With approval from the Executive Officer, the following Members may initially report the Total Nitrogen Applied value only:

- Growers that (1) operate in areas with evidence of no or very limited nitrogen impacts to surface water or groundwater, (2) have minimal nitrogen inputs, and (3) have difficulty measuring yield;
- Diversified socially disadvantaged growers, as defined by the Farmer Equity Act of 2017,¹¹⁷ with (1) a maximum total acreage of 45 acres, (2) gross annual sales of less than \$350,000, and (3) a crop diversity greater than 0.5 crops per acre

⁹ Outliers are growers that apply an excess amount of nutrients. Outliers will be identified by the Discharger Group annually based on the INMR submitted that particular year. The Discharger Group shall propose an approach to determine outliers and the Executive Officer shall approve after public notice and comment. When applicable the approach shall consider multi-year data.

¹⁰ A field is a contiguous piece of land that has the same crop planted on it. There can be multiple fields on a single parcel and a field can span across multiple parcels.

¹¹ Nitrogen applied values include any nitrogen that is applied to a field such as organic amendments, synthetic fertilizers, manure, and irrigation water.

(one crop for every two acres);

- Growers with (1) a maximum total acreage of 20 acres, and (2) a crop diversity greater than 0.5 crops per acre (one crop for every two acres).

The Discharger Group shall prepare an assessment report as part of its WQMP for Executive Officer approval that demonstrates that any Member seeks submit the A value only meets these criteria.

The Los Angeles Water Board may begin requiring the reporting of Total Nitrogen Removed by growers previously exempted from the nitrogen management requirements at any time and may accept alternative methodologies for reporting Total Nitrogen Removed.

1.4.4 Exemption from Nitrogen Management Reporting Requirements

Notwithstanding the provisions above, for Members where applied nitrogen is not expected to seep below the root zone in amounts that could impact groundwater and is further not expected to discharge to surface water, the INMPs, INMRs, and calculations in Sections 1.4.4.1 – 1.4.4.5 are not required.

The Discharger Group shall prepare an assessment report as part of its WQMP and submit it to the Executive Officer for approval, demonstrating Members meet the criteria for exemption from nitrogen management requirements.

1.4.5 INMR Data Evaluation

For each field, the Discharger Group shall calculate Nitrogen Removed (Section 1.4.4.1), Annual and Multi-year Nitrogen Applied/Nitrogen Removed (A/R Ratio) (Sections 1.4.4.2 and 1.4.4.3), and Annual and Multi-year Nitrogen Applied-Nitrogen Removed (A-R Difference) (Sections 1.4.4.4 and 1.4.4.5) as indicated below.

1.4.5.1 Total Nitrogen Removed Crop Coefficients

The Discharger Group shall calculate the total nitrogen removed by multiplying the crop yield by a crop-specific coefficient. The total nitrogen removed includes the nitrogen present in all harvested/sequestered materials removed from the field. The Discharger Group shall use Executive Officer approved crop-specific coefficients to calculate Total Nitrogen Removed values based on the crop yield values reported in the INMRs. For crops without existing coefficients, the Discharger Group shall determine, through literature review, nitrogen removed testing, and research, the most appropriate coefficients for converting crop yield to total nitrogen removed, five years after adoption of Order R4-2023-XXXX.

For the crops that do not have a specific associated developed and approved it is acceptable to use estimated coefficients based on similar crop types where appropriate. Until crop-specific coefficients have been approved for a particular crop, the Discharger Group may only report the crop yield¹². Once the crop-specific coefficient is approved the Discharger Group shall retroactively calculate the total nitrogen removed values and submit these values with the next Discharger Group INMR reporting.

1.4.5.2 Annual Nitrogen Applied/Nitrogen Removed Ratio (A/R Ratio)

The Discharger Group shall calculate the A/R ratio as the ratio of total nitrogen applied to total nitrogen removed. The formula for calculating the annual A/R ratio is below.

$$\text{A/R (1 year)} = \frac{\text{Nitrogen Applied during current reporting cycle}}{\text{Nitrogen Removed during current reporting cycle}}$$

1.4.5.3 Multi-Year Applied/Nitrogen Removed Ratio (A/R Ratio)

For each field for which three consecutive years of A/R ratio is available, the Discharger Group shall calculate the multi-year A/R ratio shall be reported as the ratio of total nitrogen applied to total nitrogen for the three prior consecutive years. The formula for calculating the multi-year A/R ratio is below.

$$\text{A/R (3 year)} = \frac{\text{Sum of Nitrogen Applied during current and two previous reporting cycles}}{\text{Sum of Nitrogen Removed during current and two previous reporting cycles}}$$

1.4.5.4 Nitrogen Applied – Nitrogen Removed Difference (A-R Difference)

The Discharger Group shall calculate the A-R difference as the numerical difference between total nitrogen applied and total nitrogen removed. The formula for calculating the annual A-R Difference is below.

$$\text{A-R (1 year)} = \text{Nitrogen Applied (current reporting cycle)} - \text{Nitrogen Removed (current reporting cycle)}$$

1.4.5.5 Multi-Year Applied/Nitrogen Removed Difference (A-R Difference)

¹² Published values for many crop-specific coefficients are already available in scientific literature and others are expected to become available in the near future. The Los Angeles Water Board acknowledge that some of these crop-specific coefficients warrant further refinement, such as crop coefficients based on crop varieties or regional characteristics. Nevertheless, the Los Angeles Water Board encourages the Discharger Group to start using available crop-specific coefficients to calculate total nitrogen removed and to perform relevant analysis prior to the five year deadline, and refine the coefficients over time.

Beginning the third year of reporting, for those locations with data available for three years, the Discharger Group shall calculate and report a three-year running total for the A-R difference. The formula for the 3-year A-R differences is shown in the equation below.

$$\text{A-R (3 year)} = \frac{\text{Sum of Nitrogen Applied (current and two previous reporting cycles)}}{\text{Nitrogen Removed (current and two previous reporting cycles)}}$$

1.4.6 Discharger Group INMR Reporting

The Discharger group shall report the following data in a tabular form to the Los Angeles Water Board with the annual monitoring report beginning December 15, 2026:

- 1) Anonymous Member ID: Each Anonymous Member ID may be associated with more than one field.
 - i. Anonymous Field ID
- 2) Crop type
- 3) Nitrogen applied via fertilizers (lbs/acre)
- 4) Nitrogen applied via organics and compost (lbs/acre)
- 5) Nitrogen applied via irrigation water (lbs/acre)
- 6) Total Nitrogen applied (lbs/acre) which is sum of nitrogen from fertilizer, organics/compost, and irrigation water
- 7) Nitrogen removed per acre (lbs/acre)¹³
- 8) A/R ratio
- 9) A-R difference (lbs/acre)
- 10) 3-year A/R ratio, if available
- 11) 3-year A-R difference, if available

The Discharger Group shall submit individual field AR data by anonymous Member and Field level ID. The Los Angeles Water Board may request names or locations of the individual field AR data on a case-by-case basis.

1.4.7 Discharger Group Outlier Methodology

The Discharger Group shall develop and submit for approval the outlier determination methodology and the follow-up program that shall include training for the identified outliers by August 1, 2025.

¹³ Until crop-specific coefficients have been approved for a particular crop, the Discharger Group may only report the crop yield.

2 Water Quality Management Plan

A Discharger Group shall develop a water quality management plan (WQMP) to address exceedances of water quality benchmarks. The WQMP shall outline specific steps with milestones that work toward attainment of water quality benchmarks through the implementation of management practices. For existing Discharger Groups, the first WQMP shall be submitted on December 15, 2024, based on water quality monitoring data from 2007-2023 and a report of existing management practices obtained from surveys completed by Members. The WQMP shall be updated according to the schedule in 2.4 based on results of revised field-level reports completed by Discharger Group members as described in Section 2.1.c. WQMPs are subject to Executive Officer approval and shall be noticed for public comment prior to Executive Officer approval. The elements of the WQMP shall include:

2.1 Summary of Existing Conditions

Discharger Group members may be separated into groups based on their operational patterns. The WQMP shall be organized by representative monitoring site and the associated irrigated agricultural lands in order to correlate management practice implementation with water quality monitoring results and to evaluate management practice effectiveness. For each representative monitoring site provide:

- a. A list of the Discharger Group members and their operational grouping, if applicable, represented by the monitoring site.
- b. A Map showing the monitoring site and the land area draining to the monitoring site.
- c. For each constituent that has exceeded a water quality benchmark, a graph showing the concentrations of the constituent over time since 2007 and a trend analysis for that constituent¹⁴.
- d. A grower-specific field-level report, submitted with Anonymous Member IDs, of existing management practices¹⁵ being implemented at the monitoring site and at the Discharger Group member sites represented by the monitoring site. In addition to adoption rates, report on the degree of implementation (e.g., size of

¹⁴ Discharger group shall propose a method for trend analysis in the WQMP.

¹⁵ To determine existing management practice implementation, the Discharger Group must compile information from Farm Evaluation Surveys completed by members. The Farm Evaluation Surveys must be specific enough to produce the required level of detail for management practice reporting. The Discharger Group shall submit the Farm Evaluation Survey template for review and approval by the Executive Officer within 30 days of the adoption of this Order and will make the Farm Evaluation Survey template available to its members within 30 days of its approval by the Executive Officer.

area treated), for each type of management practice, as follows:

- For all types of management practices that require linear installation, report linear feet installed per corresponding total length. For example, list how many feet of roads are covered with gravel per total length of roads.
 - For all types of management practices that require linear installation to treat an area of irrigated agricultural land, report linear feet installed and acres treated. For example, list how many feet of filter socks are installed at the property to treat how many acres of land.
 - For all types of management practices that are installed to treat a specific area, report acres treated. For example, for runoff collection, report how many acres of runoff from agricultural land are treated.
- e. A summary of pesticide/herbicide/fungicide and fertilizer application practices. Compare changes in pesticide and nutrient concentrations at monitoring sites to pesticide and fertilizer use patterns for site.
- f. Comparison of existing management practice implementation (type of management practices, adoption rates, and degree of implementation specified in Section 2.1.c.) at the monitoring site and at the Discharger Group member sites represented by the monitoring site to long-term monitoring data for the monitoring site using graphical comparisons and statistical analysis, as specified in Section 2.1.b., in order to assess management practice effectiveness and determine if additional or upgraded management practices are necessary to meet water quality benchmarks.

2.2 Proposed Additional or Upgraded Management Practices

Based on the analysis completed under Section 2.1.e., for each monitoring site provide:

- a. Description of additional or upgraded management practices, which shall be implemented by the monitoring site and at the Member sites represented by the monitoring site to address water quality benchmark exceedances, as follows:
 - For exceedances of water quality benchmarks for nutrients, the WQMP must specify the following types of management practices:
 - Improved irrigation efficiency to reduce runoff
 - Treatment systems or control systems, such as bioreactors, to remove nitrogen from discharges
 - Practices to reduce erosion and sediment in runoff
 - Riparian buffers

- For exceedances of water quality benchmarks for historic pesticides and their degradation products, such as DDT, DDE, chlordane, and dieldrin, the WQMP must specify the following types of management practices:
 - Improved irrigation efficiency to reduce runoff
 - Practices to reduce erosion and sediment in runoff
 - Stormwater runoff filtration and/or infiltration
 - Riparian buffers
- For exceedances of water quality benchmarks for copper and current use pesticides, such as chlorpyrifos, diazinon, and pyrethroids, the WQMP must specify the following types of management practices:
 - Pesticide management plans
 - Improved irrigation efficiency to reduce runoff
 - Practices to reduce erosion and sediment in runoff
 - Stormwater runoff filtration and/or infiltration
 - Riparian buffers
- Additional or upgraded management practices must be based on a comparison to existing management practices, as follows:
 - If source reduction and non-structural management practices are not fully implemented by all members represented by the monitoring site, then the WQMP must specify increased implementation of source reduction and non-structural management practices
 - If source reduction and non-structural management practices are fully implemented¹⁶ by all members represented by the monitoring site, then the WQMP must specify implementation of structural/treatment management practices
- For member sites located under a utility easement, additional or upgraded management practices may be based on “Best Management Practices: A Water Quality Field Guide for Nurseries, Southern California Edition” prepared by the University of California Division of Agriculture and Natural Resources.
- b. For irrigated agricultural areas that are subject to erosion and may discharge sediment that may degrade surface waters, the WQMP must specify sediment and erosion control management practices.

¹⁶ Or cannot be fully implemented. For example, if irrigation runoff cannot be reduced or eliminated by replacing inefficient irrigation systems with drip irrigation because of plant propagation needs or other considerations, then irrigation runoff must be treated before leaving the property or recycled (tailwater recovery).

- c. A time-certain schedule for implementation of additional or upgraded management practices with a goal of attaining water quality benchmarks in ten years, unless otherwise specified in Table 3.

2.3 Outreach Plan

The WQMP shall include a strategy for communicating to growers the need to implement additional or upgraded management practices. The Discharger Group shall:

- a. Provide regular communication (a minimum of twice per year) to members alerting them of additional and upgraded management practice requirements specific to their site as specified in Section 2.2.
- b. Provide education classes and field trainings, referrals to technical assistance providers, and notices of available funding to members, targeting the constituents specific to their site as specified in Section 2.2.

2.4 WQMP Process

The Discharger Group shall submit the first WQMP by December 15, 2024, based on data collected since 2007 and results from surveys completed by its members. The Discharger Group shall update the WQMP with the latest monitoring data since 2007; new information about existing management practices based on updated field-level reports completed by its members, according to Section 2.1; and additional or new management practices proposed for the next year, according to Section 2.2; as well as an updated outreach plan, according to Section 2.3. The schedule for submittal of updated WQMPs is as follows:

Submit first WQMP: December 15, 2024, every three years thereafter

The deadlines in Table 3 take into consideration the relative difficulty in achieving water quality benchmarks for different constituents and are based on TMDL compliance dates.

Table 3 TMDL-Associated Water Quality Benchmark Compliance Deadlines

| TMDL Constituents | Compliance Date |
|---|--|
| Malibu Creek Watershed Nutrients TMDL | October 14, 2022 |
| Santa Clara River Nitrogen Compounds TMDL | March 23, 2004 |
| Upper Santa Clara River Chloride TMDL | April 6, 2010 |
| Malibu Creek Watershed Sedimentation and Nutrients TMDL | October 14, 2022 |
| Santa Clara River Bacteria TMDL | March 21, 2023 dry March 21, 2029 wet |

For Discharger Group representative monitoring sites that do not show decreasing trends in concentrations, or for which a deadline in Table 3 has passed, the representative monitoring sites shall be subject to discharge limitations equal to water quality benchmarks at the points of discharge from the deadline forward. In addition, monitoring sites shall be added at the discharges from the individual irrigated agricultural lands represented by the Discharger Group monitoring sites to determine if the individual sites are attaining water quality benchmarks. If individual irrigated agricultural lands represented by the Discharger Group monitoring sites are not attaining water quality benchmarks based on one year of sampling (one wet-weather event and one dry-weather event), then these individual sites shall have an additional year before they are subject to discharge limitations equal to water quality benchmarks at the points of discharge.

3 Reporting Requirements Discharger Group

The Discharger Group shall submit the following reports to the Los Angeles Water Board by the deadlines identified below.

3.1 Monitoring and Reporting Plan

Due: six months from the adoption of Order No. R4-2023-XXXX, and updated, if needed, within three months of the submittal of the Annual Monitoring Report.

The MRP must include the components of the monitoring and reporting requirements as stated in this Appendix. The MRP shall also include the following elements:

- 1) Title page and Table of Contents

- 2) Description of the Discharger Group, including formation and background information
- 3) Summary of Discharger Group membership and setting, including characteristics relevant to the monitoring
- 4) Summary of the historical data and/or on-going monitoring at each monitoring site
- 5) GPS coordinates for each monitoring site
- 6) Maps showing property boundaries, land use, topography, waters of the state, crop types, and any other features which may affect water quality
- 7) Summary of current pesticide use practices (including top 5 pesticides applied by volume and 5 most frequently applied pesticides) totaled by irrigated lands associated with a representative monitoring site
- 8) Monitoring constituents and frequency of sampling to include all constituents in Table 1 and 2
- 9) A QAPP consistent with the requirements described in Section 1.4
- 10) Documentation of monitoring protocols including sample collection and handling methods
- 11) Discharger Group contact information

3.2 Annual Monitoring Report

Due: Annually beginning December 15th

The Discharger Group shall prepare the Annual Monitoring Report (AMR) after monitoring events have been completed and it shall include a review of the results of the data collected and data evaluation and a WQMP progress report. The AMR shall include the following components:

- 1) Title page and Table of contents
- 2) Description/Summary of Discharger Group membership and setting
- 3 Updated membership list, submitted electronically
- 4) Monitoring objectives
- 5) Parameters monitored and frequency, including sampling and analytical methods used
- 6) Monitoring Sites Information. Including for each monitoring site:
 - a. Site description, and photographs
 - b. GPS coordinates of the site and a map showing the responsibility area and the land area draining to the site.
- 7) Monitoring Events Records, Copies of all field documentation. Documentation should include the following information for each site and sampling event:
 - a. Date and time of sampling
 - b. Sample location (GPS coordinates)

- c. Photograph(s) of the site
- d. Individual(s) who performed the sampling or measurements
- e. Observed Field parameters (such as pH and other field measured parameters) and including (where available): description of the weather, rainfall, temperature, photographs, stream flow, color of the water, odor, farm conditions which may affect water quality (crop type, cultivation practices and pesticide, fertilizer or sediment control measures) and other relevant information that can help in data interpretation.

8) Monitoring Data Results, for each site and sampling event. All monitoring data shall be submitted in an electronic format. Data shall include:

- a. Date(s) analyses were performed
- b. Laboratory and/or individual(s) who performed the analyses
- c. Analytical techniques or method used along with method detection limits and reporting limits
- d. Results of analyses

9) Monitoring Data Analysis

- a. Comparison of data with applicable water quality benchmarks and/or discharge limitations
- b. Water quality benchmark exceedances and tabulated results of trend analysis.
- c. Data analysis including assessment of compliance and/or noncompliance with water quality benchmarks and/or discharge limitations

10) Discharger Group INMR Reporting

11) Quality Control Section, including:

- a. Copy of chain of custody, submitted electronically
- b. Associated laboratory and field quality control samples results
- c. Summary of precision and accuracy
- d. Quality control data interpretation, including assessment of data quality objectives

12) WQMP Progress Report

For each responsibility area:

- a. List of enrolled and non-enrolled parcels
- b. Copies of outreach materials (mailings, handouts from education classes)
- c. Report on members who have completed and not completed:
 - a. field-level reports
 - b. education requirements

- c. INMP or certified INMP
- d. INMR

3.3 Farm Evaluation Survey Template

The Discharger Group shall submit the template Farm Evaluation Survey to the Executive Officer for review and approval within 120 days of the adoption of Order No. R4-2023-XXXX and shall make the Farm Evaluation Survey template available to its members according to the schedule in Section 2 of these monitoring and reporting requirements.

3.4 Water Quality Management Plan

First WQMP due: December 15, 2024, then every three years thereafter

For existing Discharger Groups, the first WQMP shall be based on water quality monitoring data from 2007-2023 and the results of surveys completed by its members per Order No. R4-2021-0045-A02. The Discharger Group shall begin surveying its members with the field-level reports within six months of the adoption of Order No. R4-2023-XXXX in order to submit the first WQMP. The WQMP shall include a list of any Members that meet the criteria for alternative nitrogen reporting or that are exempt from nitrogen management requirements.

All Discharger Groups shall update the WQMP every three years using all monitoring data collected by the Discharger Group since its inception. The required elements of a WQMP are presented in Section 2 of these Monitoring and Reporting Requirements.

3.5 Irrigation and Nutrient Management Plan and Report Templates

The Discharger Group shall develop templates for the INMP and the INMR and submit the drafts to the Executive Officer for approval three months after the adoption of Order R4-2023-XXXX.

The templates shall include the following language:

For any INMP reports that are required to be certified, the report shall include the following certification language:

The person signing this report certifies, under penalty of law, that the report was prepared under their direction and supervision, that the information and data reported is to the best of their knowledge and belief,

true, accurate, and complete, and that they are aware that there are penalties for knowingly submitting false information. The qualified professional signing the report may rely on the information and data provided by the Discharger and is not required to independently verify the information and data.

The person signing the report below further certifies that they used sound irrigation and nitrogen management planning practices to develop irrigation and nitrogen application recommendations and that the recommendations are informed by applicable training for meeting the crop's agronomic needs while minimizing nitrogen loss to surface water and groundwater. Where the person signing the INMP is not the Member, he/she is not responsible for any damages, loss, or liability arising from subsequent implementation of the INMP by the Member in a manner that is inconsistent with the INMP's recommendations for nitrogen application. This certification does not create any liability for claims for environmental violations.

Qualified Professional Certification:

I, _____, certify this INMP in accordance with the statement above.

_____ (Signature)

The Discharger additionally agrees as follows:

I, _____, Member, have provided information and data to the certifier above that is, to the best of my knowledge and belief, true, accurate, and complete, that I understand that the certifier may rely on the information and data provided by me and is not required to independently verify the information and data, and that I further understand that the certifier is not responsible for any damages, loss, or liability arising from subsequent implementation of the INMP by me in a manner that is inconsistent with the INMP's recommendations for nitrogen application. I further understand that the certification does not create any liability for claims for environmental violations.

_____ (Signature)

3.6 Irrigation and Nutrient Management Plan and Report

First INMP due: March 1, 2025, and annually thereafter

First INMR due: March 1, 2026, and annually thereafter

The Discharger Group shall review each Members' INMR and independently calculate and report both the A/R ratio and the A-R difference for each reporting cycle. Beginning the third year of reporting, for those locations with data available for three years, the

Discharger Group shall calculate and report a three-year running total for both the A/R ratio and the A-R difference.

The Discharger Group shall submit the reports by anonymous Member ID and field level ID. The Los Angeles Waterboard may request names or locations of the individual field AR data on a case-by-case basis.

3.7 Outlier Methodology

Due: August 1, 2025, revised as necessary

The Discharger Group shall identify the outliers for AR data, subject to follow up actions, and the standard used to make that determination.

3.8 Groundwater Trend Monitoring Plan

Groundwater Trend Monitoring Plan due: December 15, 2024

3.9 Groundwater Trend Monitoring Report

Groundwater Trend Monitoring Report due: December 15, 2025, and every three years thereafter.

3.9 Groundwater Protection Formula, Values, and Targets

Groundwater Protection Formula due: September 1, 2026

Groundwater Protection Values due: 6 months after Executive Officer approval of the Groundwater Protection Formula

Groundwater Protection Targets due: 1 year after Executive Officer approval of the Groundwater Protection Values, and sh be reviewed and revised as necessary every 5 years

3.10 Other Reporting Requirements

- 1) A transmittal letter shall accompany each report. This letter shall include a brief discussion of any violations of the General WDRs that were found during the reporting period and cite to the pages in the report that note these violations. The transmittal letter shall be signed and shall contain a penalty of perjury statement by the Discharger Group's authorized agent. This statement shall state:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who

manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment for perjury.”

- 2) If Dischargers monitor any constituent (at locations established in the MRP), for the purposes of evaluating compliance with the provisions of this General Order, more frequently than required by the General WDRs, the discharger shall submit the monitoring results to the Los Angeles Water Board.
- 3) The Discharger Groups shall retain records of all monitoring information including all calibration and maintenance records, copies of all reports required by this General Order, and records of all data used to complete the application for this General Order.
- 4) Records shall be maintained for a minimum of ten years from the date of the sample, measurement, or report. Back up files of these records must be stored in a secure, offsite location managed by an independent entity. This period may be extended during the course of any unresolved enforcement action, including, but not limited to, litigation regarding this discharge, or when requested by the Executive Officer.
- 5) Each monitoring report must affirm in writing that “All analyses were conducted at a laboratory certified for such analyses by the Environmental Laboratory Accreditation Program, and in accordance with current USEPA guideline procedures, or as specified in this Monitoring Program.”
- 6) Monitoring reports must be provided in electronic format to be specified by the Executive Officer.
- 7) Records and reports submitted to the Los Angeles Water Board are public documents and shall be made available for inspection during normal business hours at the Los Angeles Water Board office.